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# Marketing Spreads for White Bread

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UNITED STATES DEPARTMENT OF AGRICULTURE
Economic Research Service

MISCELLANEOUS PUBLICATION NO. 1091

This publication shows the changes in white bread prices, spreads, and costs from 1947 through 1967. Bread prices have increased in each of the last 21 years, except in 1964, when the average price was the same as in 1963. The price rise was highest in 1951 and 1966—1.4 cents over 1950 and 1.2 cents over 1965, respectively, but increased only 0.2 cent in 1967. In 1967, the retail price was 8.7 cents per pound loaf above the 1947-49 average, an increase of 64 percent. The Consumer Price Index for all foods purchased for home consumption rose about 30 percent in this period.

From 1950 to 1965, the farm value of all farm-produced ingredients was as high as in 1947-49 in only one year, 1954. In the other years until 1966, it was from 0.1 to 0.5 cent lower. In 1966, the farm value rose and was 0.3 cent above 1947-49 but declined in 1967 to only 0.1 cent above 1947-49. The increase in the price of bread in 1967 over 1947-49 of 8.7 cents was accounted for by an 8.6 cents rise in the marketing spread and the rise in the farm value. During the intervening years, except in 1966, increases in prices over 1947-49 were accounted for entirely by increases in the marketing spread.

Prepared by J. C. Eiland, agricultural economist, Economic Research Service, this publication supersedes Miscellaneous Publication No. 969 (SPREADS IN FARM-RETAIL PRICES OF WHITE BREAD) and earlier publications on marketing spreads for white bread covering the period since 1947-49. It is one of several reports on food marketing costs and spreads prepared by the U.S. Department of Agriculture, and is part of a broad program of research designed to reduce the cost of marketing farm products. This is part of the Department's continuing research being conducted at the direction of Congress.

The Department maintains current data on bread prices and spreads, and publishes them periodically in "Marketing and Transportation Situation."

Issued July 1968

**The difference between the returns the farmer receives for the quantity of wheat and other farm-produced ingredients used in baking a pound loaf of bread (including the domestic marketing certificate paid by the wheat miller), and the price the consumer pays for the loaf of bread is termed the "PRICE SPREAD," the "FARM-RETAIL SPREAD," or "MARKETING SPREAD." The marketing spread includes all charges for handling, storing, transporting, and processing wheat and other farm-produced ingredients; the cost of non-farm-produced ingredients to the baker; and baking, distributing, and retailing the bread sold by food stores.**

# Marketing Spreads for White Bread

*Marketing Economics Division, Economic Research Service*

Annual average white bread prices in food stores have risen every year since 1945, except 1964. The price for a 1-pound loaf has increased very little each year since 1961, except in 1966 when it rose from the 1965 price of 20.8 cents to 22.0 cents. In only one year, 1951, was the increase greater.

The 1967 price of 22.2 cents was 64 percent above the 13.5 cents paid for a 1-pound loaf in 1947-49. The increase since 1947-49 has come almost completely from increases in the marketing spread, and not from an increase in the value of farm ingredients, without any significant change in marketing services rendered (fig. 1).

In 1967, the price declined 0.3 cent from the first to the third quarter but increased 0.1 cent from the third to the fourth quarter. This pattern for the first three quarters was contrary to every other year since 1945.

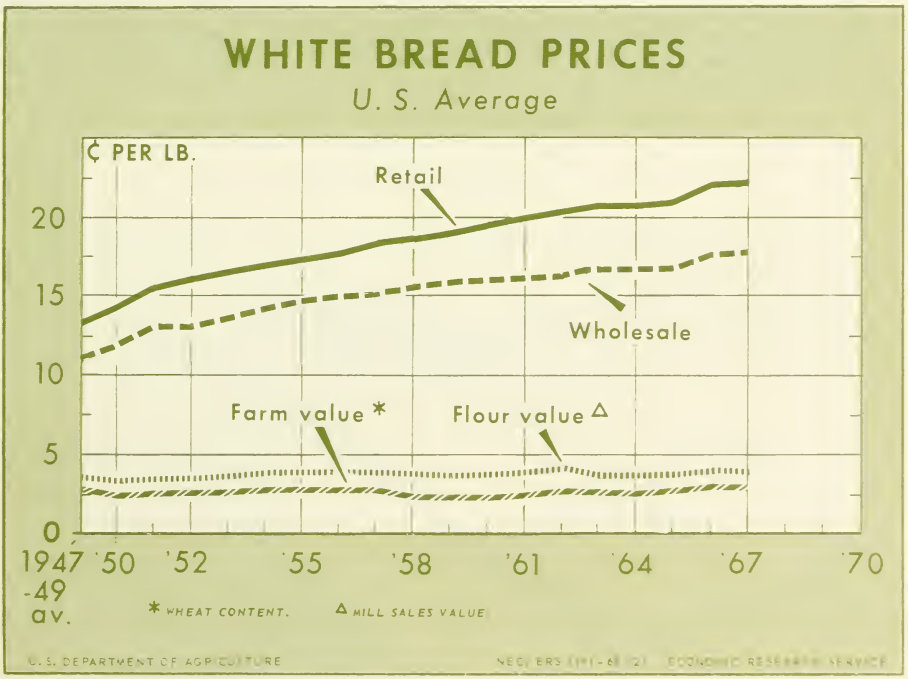



Figure 1

**During 1947-49, if the farmer had exchanged a bushel of wheat for white bread at the store, he would have received about 15.9 1-pound loaves. Due to a higher price of bread and only a slightly higher farm value of wheat (including the domestic marketing certificate), he would have received only about 10.0 1-pound loaves for his bushel of wheat in 1967. Despite the fact that a bushel of wheat yielded 69.2 1-pound loaves, or three more in 1967 than in 1947-49, it required the returns from 60 percent more of the farmer's wheat for him to buy a loaf of bread in 1967 than it did in 1947-49.**

## WHY PRICE SPREAD WIDENED

The widening of the marketing spread between 1947-49 and 1967 was due primarily to wider spreads and higher costs for baking, distributing, and retailing bread. Hourly earnings of production workers in bakeries in 1967 were about $1.52, or 132 percent above the level of 1947-49. Output per man-hour has increased less than hourly earnings, thus resulting in higher labor costs per loaf.

Much of the higher cost appears to have been passed on to consumers. Other noningredient costs—for wrapping materials, for example—also rose. Retailers' spreads have increased. Although hourly earnings in the flour milling industry increased, flour prices did not change as much as bread prices. Flour prices tended to vary with the cost of wheat to the miller.

The miller's spread has contributed little to the widened farm-retail price spread for bread. Although his spread has deviated from 0.6 cent by as much as 0.3 cent, it was 0.6 cent in 1967, the same as in 1947-49.

Rises in the costs of items used by firms involved in the marketing process, and thus their spreads, accounted for almost all of the 64 percent increase in the retail price of bread between 1947-49 and 1967. During this period, the wholesale and chainstore bakers' spread rose 5.8 cents and accounted for about 67 percent of the increase in the retail price.

In 1967, estimated baker labor costs, including fringe benefits, for producing and distributing a 1-pound loaf of bread were 4.7 cents higher than in 1945 (table 1). Labor cost increases accounted for nearly 62 percent of the rise in the baker's

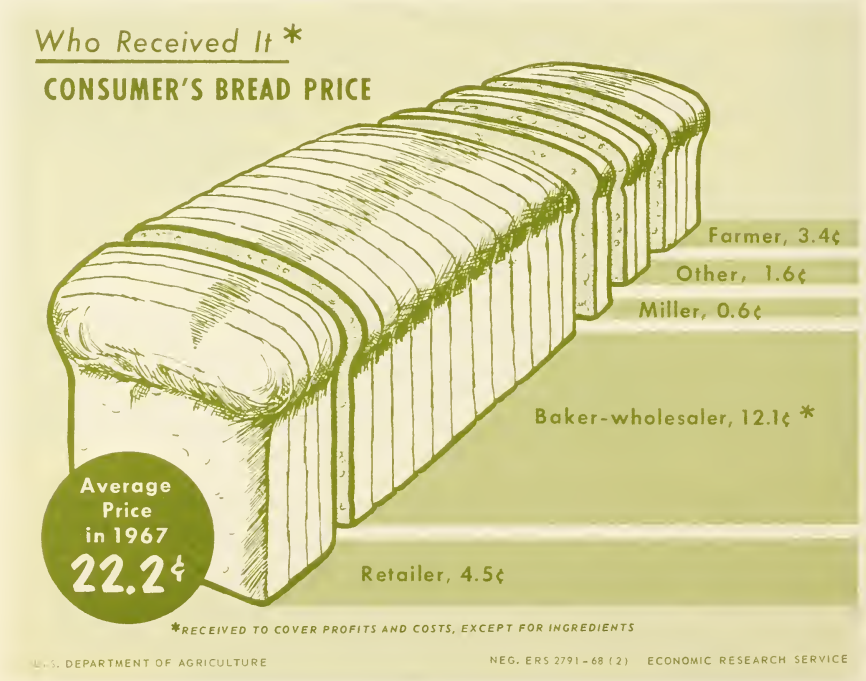



Figure 2

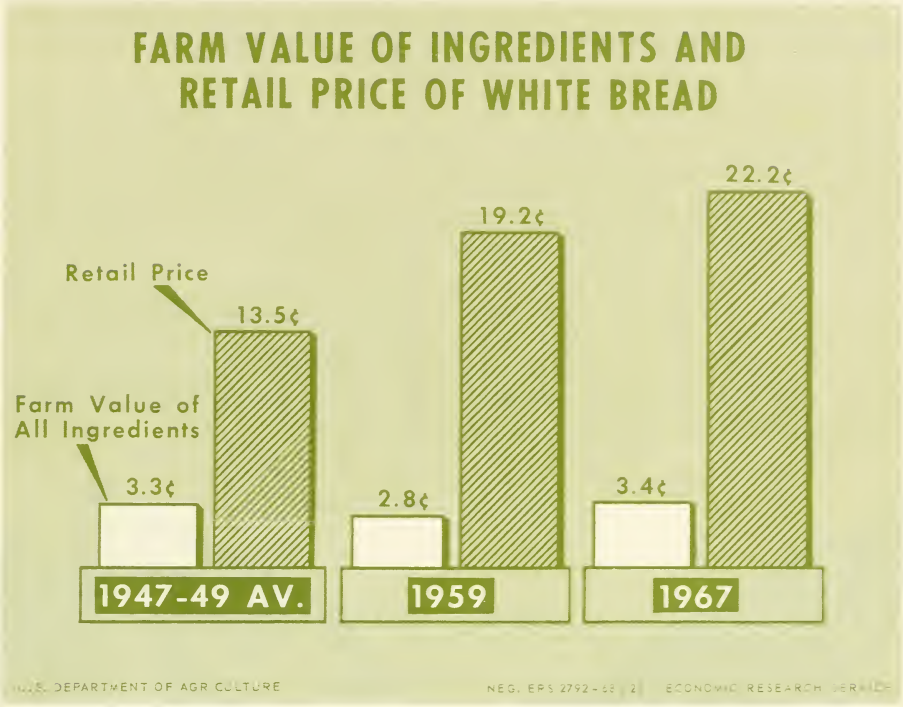



Figure 3

spread. His spread rose from 47 to 55 percent of the retail price from 1947-49 to 1967 (table 2).

The miller's flour spread declined from 4 to 3 percent of the retail price from 1947-49 to 1967. The retailer's spread more than doubled and increased from 16 to 20 percent of the retail price during this period.

**TABLE 1.—Estimated baker's costs, profit, spread, and wholesale price for a 1-pound loaf of white bread in the United States, 1945, 1950, 1955, 1960, 1965, and 1967 [1]**

| Item | 1945 | 1950 | 1955 | 1960 | 1965 | 1967 |
|---|---|---|---|---|---|---|
| | | | *Cents* | | | |
| Operating costs and profits: | | | | | | |
| Wages and salaries | 2.2 | 3.5 | 4.3 | 5.4 | 5.8 | 6.3 |
| Fringe benefits and social security tax | .1 | .2 | .4 | .4 | .6 | .7 |
| Packaging and wrapping material | .4 | .6 | 1.1 | 1.3 | 1.2 | 1.3 |
| Delivery other than wages and salaries | .3 | .5 | .8 | 1.0 | .8 | .9 |
| Advertising and promotion | .2 | .3 | .7 | .6 | .5 | .5 |
| Other costs | 1.0 | 1.3 | 1.7 | 1.7 | 1.8 | 2.0 |
| Profits (after taxes) | .3 | .6 | .4 | .5 | .4 | .4 |
| Baker's spread | 4.5 | 7.0 | 9.4 | 10.9 | 11.1 | 12.1 |
| Ingredient costs | 2.8 | 4.7 | 5.4 | 5.1 | 5.5 | 5.6 |
| Sales price (wholesale) | 7.3 | 11.7 | 14.8 | 16.0 | 16.6 | 17.7 |

[1] Based on data for 18 multiple-unit and 18 single-unit wholesale bakeries presented in *Cost and Margin Trends in the Baking Industry*, Senate Committee on Agriculture and Forestry report, May 1, 1957; data on marketing spreads for white bread, published regularly by USDA; and *Organization and Competition in the Milling and Baking Industries*, Technical Study No. 5, National Commission on Food Marketing, June, 1966.

## FARM VALUE ABOVE 1947-49 IN 1966-67

The farm value (money received by farmers) for all ingredients declined from 3.3 cents in 1947-49 to a low of 2.8 cents in 1959 and 1960, then rose, and for the first time was above 1947-49 at 3.6 cents in 1966 (table 3). The 1967 farm value of all ingredients averaged 0.2 cent below the 1966 level, but 0.1 cent above 1947-49. Throughout 1947-67, the retail price and marketing spreads increased with few interruptions. Although the farm value of the ingredients was higher in 1967 than in 1947-49, and 0.6 cent above the low of 1959 and 1960, the farmer's share of the retail price was only about 15 percent in 1967 compared to 25 percent in 1947-49 (table 2). The farmer's percentage share of the annual retail price has decreased in 10 of the 20 years since 1947, increased in 3 years, and remained unchanged in 7 years.

Only 3.4 cents of the average price —22.2 cents—paid by consumers for a pound of white bread in 1967 was received by farmers for wheat and other ingredients of farm origin such as lard, sugar, and dried milk (tables 2 and 3 and fig. 2).

Wheat farmers received about 2.8 cents in 1967, 2.6 cents in 1947-49, and a low of 2.2 cents in 1959. Even if the farmer had donated his wheat, white bread still would have cost consumers about 19.4 cents per loaf in 1967. If the rise in the retail price of bread had been proportionate to that for all home-consumed food, consumers would have paid about 17.6 cents a pound loaf in 1967 instead of 22.2 cents.

If the farmer had received an 84 percent increase in the price of wheat (including the certificate) from 1947-49 to 1967—the same as the increase in marketing spreads—he would have received about $3.94 per bushel, and a loaf of bread would have cost the consumer about 24.4 cents in 1967. This would have added about 2.2 cents to the retail price of bread, and the wheat farmer would have received about 5.0 cents of the average retail price in 1967.

The farm value of other ingredients has fluctuated near 0.6 cent per pound of bread since 1947-49. The low of 0.5 cent occurred in 1955, 1956, and 1960. The high point of 0.7 cent occurred in 1947-49, 1957, and in 1966.

**TABLE 2.—Distribution of retail price of bread by recipients, United States, 1947-49 and 1967**

| Recipient | 1947–49 | | 1967 | |
|---|---|---|---|---|
| | Amount [1] | Percentage | Amount [1] | Percentage |
| | *Cents* | *Percent* | *Cents* | *Percent* |
| Farmers | 3.3 | 25 | 3.4 | 15 |
| Grain elevators, transportation agencies, providers of nonfarm produced ingredients, and processors of ingredients other than flour | 1.1 | 8 | 1.6 | 7 |
| Flour mills | .6 | 4 | .6 | 3 |
| Wholesale and chainstore bakeries | 6.3 | 47 | 12.1 | 55 |
| Grocers | 2.2 | 16 | 4.5 | 20 |
| Total (retail price) | 13.5 | 100 | 22.2 | 100 |

[1] Amount received to cover operating costs and profits.

## FARMER'S PRICES DON'T GOVERN BREAD PRICES

Farm values of wheat, sugarbeets or sugarcane, milk, hogs (lard), and oilseeds (vegetable shortening) are such a small portion (15 percent in 1967) of the retail price of bread that large fluctuations in farm prices can take place with little effect on the price of the finished product.

The farmer's share will not be significantly altered by the choice of bread formulas unless yield of bread (bread produced per 100 pounds of flour used) is significantly affected, because the amounts of nonflour ingredients are small. To 100 pounds of flour are added, on the average, 3.3 pounds of a combination of lard and vegetable shortening, 9.2 pounds of a combination of sugar and other sweeteners, 2.5 pounds of milk, plus minor ingredients and water, to produce 158 pounds of baked bread. Changes in ingredient mix, shorter baking time, and increased yield have had an effect in lowering the farmer's share of the retail price.

## MILLER'S FLOUR SPREAD DOWN FROM 1958

Since 1947-49, the miller's flour spread for milling the wheat and marketing the flour needed to produce a 1-pound loaf of bread has varied from a low of 0.5 cent in 1952 to a high of 0.9 cent in 1958. Since 1958, it has been from 0.1 to 0.3 cent below 1958. The low for the post-1958 period, 0.6 cent, occurred in 1965 and 1967. The spread for these 2 years was the same as the one in 1947-49.

Hourly earnings of flour and other grain mill production workers increased an estimated 133 percent between 1947-49 and 1967. Labor costs of producing a unit of flour increased only moderately, however, or a little over 10 percent. Changes in the miller's spread appear to have been influenced more by flour prices than by wheat prices.

**TABLE 3.—White pan bread: Estimated retail and w and other spreads, and estimated farm value of in**

| Year and quarter | Retail price [2] | Retail spread [3] | Wholesale price [4] |
|---|---|---|---|
| | *Cents* | *Cents* | *Cents* |
| 1947–49 average | 13.5 | 2.2 | 11.3 |
| 1950 | 14.3 | 2.6 | 11.7 |
| 1951 | 15.7 | 2.4 | 13.3 |
| 1952 | 16.0 | 2.8 | 13.2 |
| 1953 | 16.4 | 2.7 | 13.7 |
| 1954 | 17.0 | 2.6 | 14.4 |
| 1955 | 17.4 | 2.6 | 14.8 |
| 1956 | 17.7 | 2.8 | 14.9 |
| 1957 | 18.5 | 3.5 | 15.0 |
| 1958 | 18.9 | 3.4 | 15.5 |
| 1959 | 19.2 | 3.3 | 15.9 |
| 1960 | 19.8 | 3.8 | 16.0 |
| 1961 | 20.2 | 4.1 | 16.1 |
| 1962 | 20.4 | 4.2 | 16.2 |
| 1963 | 20.7 | 4.1 | 16.6 |
| 1964 | 20.7 | 4.1 | 16.6 |
| 1965 | 20.8 | 4.2 | 16.6 |
| 1966 | 22.0 | 4.4 | 17.6 |
| 1967 | 22.2 | 4.5 | 17.7 |
| 1966: | | | |
| January–March | 21.3 | 4.2 | 17.1 |
| April–June | 21.6 | 4.4 | 17.2 |
| July–September | 22.3 | 4.5 | 17.8 |
| October–December | 22.7 | 4.6 | 18.1 |
| 1967: | | | |
| January–March | 22.4 | 4.5 | 17.9 |
| April–June | 22.3 | 4.7 | 17.6 |
| July–September | 22.1 | 4.5 | 17.6 |
| October–December | 22.2 | 4.6 | 17.6 |

[1] The method of calculating these data has been revised. The figures are not comparable to those published before. These data are estimates of concurrent spreads in prices at each stage in bread production and distribution, reflecting structural marketing changes as well as changes in prices of production factors. They measure the estimated actual price spreads and are not a measure of marketing charges for a constant quantity of services. The estimates are prices at which bread and ingredients changed hands in trade.

[2] Average of retail prices of bread sold in food stores in urban areas reported by Bureau of Labor Statistics and adjusted for market changes occurring gradually but reflected at specific intervals in BLS published prices. These changes and their effects on prices are shown by the differences in the two published prices (benchmark prices) on such dates, reflecting the old and new situations. Data have been adjusted to assume a smooth and gradual change from the old to the new situations.

[3] Spread between retail and wholesale prices.

[4] Derived from BLS wholesale prices, trade data, Congressional hearings and reports, and survey data published by the National Commission on Food Marketing. Includes both wholesale brand and chainstore brand breads.

[5] Spread between wholesale price and cost to the baker of all ingredients.

[6] Cost of flour, shortening, nonfat dry milk, sugar, and other ingredients in a pound of bread, as reported in the latest Census of Manufactures adjusted to reflect monthly changes in market prices.

[7] Based on bread formulas using 0.641 lb. of flour through 1963 and 0.6329 lb. since. Cost of flour to baker as reported in the Census of Manufactures adjusted

**...esale prices of a 1-pound loaf, retailer's, baker-wholesaler's, miller's, ...rdients, United States, averages for 1947-49, annually for 1950-67, and ...arterly for 1966-67 [1]**

| Baker-wholesaler spread [5] | Cost to baker | | Mill sales value of flour [8] | Miller's flour spread [9] | Cost of wheat to miller [10] | Other spreads [11] | Farm value | |
|---|---|---|---|---|---|---|---|---|
| | All ingredients [6] | Flour [7] | | | | | Wheat [12] | All ingredients [13] |
| *...ents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* |
| ...3 | 5.0 | 3.5 | 3.4 | .6 | 2.8 | 1.1 | 2.6 | 3.3 |
| ...0 | 4.7 | 3.4 | 3.3 | .6 | 2.7 | 1.1 | 2.4 | 3.0 |
| ...2 | 5.1 | 3.6 | 3.5 | .7 | 2.8 | 1.2 | 2.6 | 3.2 |
| ...3 | 4.9 | 3.4 | 3.3 | .5 | 2.8 | 1.3 | 2.5 | 3.1 |
| ...6 | 5.1 | 3.6 | 3.5 | .6 | 2.9 | 1.4 | 2.5 | 3.1 |
| ...9 | 5.5 | 4.0 | 3.8 | .7 | 3.1 | 1.5 | 2.7 | 3.3 |
| ...4 | 5.4 | 4.0 | 3.8 | .7 | 3.1 | 1.5 | 2.7 | 3.2 |
| ...6 | 5.3 | 3.9 | 3.7 | .7 | 3.0 | 1.5 | 2.6 | 3.1 |
| ...6 | 5.4 | 3.9 | 3.7 | .8 | 2.9 | 1.4 | 2.5 | 3.2 |
| ...2 | 5.3 | 3.8 | 3.6 | .9 | 2.7 | 1.5 | 2.3 | 2.9 |
| ...8 | 5.1 | 3.7 | 3.5 | .8 | 2.7 | 1.5 | 2.2 | 2.8 |
| ...9 | 5.1 | 3.8 | 3.5 | .8 | 2.7 | 1.5 | 2.3 | 2.8 |
| ...9 | 5.2 | 3.8 | 3.6 | .8 | 2.8 | 1.4 | 2.4 | 3.0 |
| ...7 | 5.5 | 4.1 | 3.8 | .8 | 3.0 | 1.5 | 2.6 | 3.2 |
| ...3 | 5.3 | 3.9 | 3.6 | .7 | 2.9 | 1.4 | 2.6 | 3.2 |
| ...2 | 5.4 | 3.8 | 3.6 | .7 | 2.9 | 1.6 | 2.5 | 3.1 |
| ...1 | 5.5 | 3.9 | 3.6 | .6 | 3.0 | 1.7 | 2.6 | 3.2 |
| ...7 | 5.9 | 4.3 | 4.0 | .7 | 3.3 | 1.6 | 2.9 | 3.6 |
| ...1 | 5.6 | 4.1 | 3.8 | .6 | 3.2 | 1.6 | 2.8 | 3.4 |
| ...5 | 5.6 | 4.0 | 3.7 | .6 | 3.1 | 1.6 | 2.7 | 3.4 |
| ...5 | 5.7 | 4.2 | 3.9 | .6 | 3.3 | 1.6 | 2.9 | 3.5 |
| ...5 | 6.3 | 4.6 | 4.3 | .8 | 3.5 | 1.7 | 3.1 | 3.8 |
| ...1 | 6.0 | 4.4 | 4.1 | .8 | 3.3 | 1.6 | 2.9 | 3.6 |
| ...2 | 5.7 | 4.2 | 3.8 | .6 | 3.2 | 1.6 | 2.9 | 3.5 |
| ...9 | 5.7 | 4.2 | 3.9 | .6 | 3.3 | 1.5 | 2.9 | 3.6 |
| ...0 | 5.6 | 4.1 | 3.7 | .6 | 3.1 | 1.6 | 2.7 | 3.4 |
| ...0 | 5.5 | 3.9 | 3.6 | .5 | 3.1 | 1.7 | 2.6 | 3.3 |

to reflect monthly changes in a 3-market weighted average price of several types of bread flour.

[8] Value of flour as reported in the latest Census of Manufactures adjusted to reflect monthly changes in a 3-market weighted average price of several types of bread flour.

[9] Spread between sales value of flour and cost of wheat to miller.

[10] Cost to miller as reported in the latest Census of Manufactures for wheat adjusted to reflect monthly changes in a 6-market average price of wheat used for milling bread flour and further adjusted to eliminate imputed value of millfeed products. It includes cost of the domestic marketing certificate beginning July 1964.

[11] Spread or charges for transporting, handling, storing all ingredients, for processing ingredients other than flour and cost of raw materials from which such non-farm-produced ingredients as yeast, yeast food, salt, malt extract, mold inhibitor, and sundry ingredients are processed. This spread is a residual figure.

[12] Returns to farmers for wheat less imputed value of millfeed byproducts, based on average market prices received by farmers for hard winter and hard spring wheat in the 10 major bread wheat producing States; return for 0.897 lb. before July 1957, 0.884 lb. from July 1957 to December 1963, and 0.867 lb. beginning in January 1964. The value received for the domestic marketing certificate has been included beginning July 1964.

[13] Value at prices received by farmers, including the value of the domestic wheat marketing certificate, less byproduct allowances, for the quantity of wheat and other farm products yielding ingredients used in a pound loaf of white bread.

**TABLE 3.—White pan bread: Estimated retail and wholesale prices of a 1-pound loaf, retailer's, baker-wholesaler's, miller's, and other spreads, and estimated farm value of ingredients, United States, averages for 1947-49, annually for 1950-67, and quarterly for 1966-67 [1]**

| Year and quarter | Retail price [2] | Retail spread [3] | Wholesale price [4] | Baker-wholesaler spread [5] | Cost to baker | | Mill sales value of flour [8] | Miller's flour spread [9] | Cost of wheat to miller [10] | Other spreads [11] | Farm value | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | All ingredients [6] | Flour [7] | | | | | Wheat [12] | All ingredients [13] |
| | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* | *Cents* |
| 1947–49 average | 13.5 | 2.2 | 11.3 | 6.3 | 5.0 | 3.5 | 3.4 | .6 | 2.8 | 1.1 | 2.6 | 3.3 |
| 1950 | 14.3 | 2.6 | 11.7 | 7.0 | 4.7 | 3.4 | 3.3 | .6 | 2.7 | 1.1 | 2.4 | 3.0 |
| 1951 | 15.7 | 2.4 | 13.3 | 8.2 | 5.1 | 3.6 | 3.5 | .7 | 2.8 | 1.2 | 2.6 | 3.2 |
| 1952 | 16.0 | 2.8 | 13.2 | 8.3 | 4.9 | 3.4 | 3.3 | .5 | 2.8 | 1.3 | 2.5 | 3.1 |
| 1953 | 16.4 | 2.7 | 13.7 | 8.6 | 5.1 | 3.6 | 3.5 | .6 | 2.9 | 1.4 | 2.5 | 3.1 |
| 1954 | 17.0 | 2.6 | 14.4 | 8.9 | 5.5 | 4.0 | 3.8 | .7 | 3.1 | 1.5 | 2.7 | 3.3 |
| 1955 | 17.4 | 2.6 | 14.8 | 9.4 | 5.4 | 4.0 | 3.8 | .7 | 3.1 | 1.5 | 2.7 | 3.2 |
| 1956 | 17.7 | 2.8 | 14.9 | 9.6 | 5.3 | 3.9 | 3.7 | .7 | 3.0 | 1.5 | 2.6 | 3.1 |
| 1957 | 18.5 | 3.5 | 15.0 | 9.6 | 5.4 | 3.9 | 3.7 | .8 | 2.9 | 1.4 | 2.5 | 3.2 |
| 1958 | 18.9 | 3.4 | 15.5 | 10.2 | 5.3 | 3.8 | 3.6 | .9 | 2.7 | 1.5 | 2.3 | 2.9 |
| 1959 | 19.2 | 3.3 | 15.9 | 10.8 | 5.1 | 3.7 | 3.5 | .8 | 2.7 | 1.5 | 2.2 | 2.8 |
| 1960 | 19.8 | 3.8 | 16.0 | 10.9 | 5.1 | 3.8 | 3.5 | .8 | 2.7 | 1.5 | 2.3 | 2.8 |
| 1961 | 20.2 | 4.1 | 16.1 | 10.9 | 5.2 | 3.8 | 3.6 | .8 | 2.8 | 1.4 | 2.4 | 3.0 |
| 1962 | 20.4 | 4.2 | 16.2 | 10.7 | 5.5 | 4.1 | 3.8 | .8 | 3.0 | 1.5 | 2.6 | 3.2 |
| 1963 | 20.7 | 4.1 | 16.6 | 11.3 | 5.3 | 3.9 | 3.6 | .7 | 2.9 | 1.4 | 2.6 | 3.2 |
| 1964 | 20.7 | 4.1 | 16.6 | 11.2 | 5.4 | 3.8 | 3.6 | .7 | 2.9 | 1.6 | 2.5 | 3.1 |
| 1965 | 20.8 | 4.2 | 16.6 | 11.1 | 5.5 | 3.9 | 3.6 | .6 | 3.0 | 1.7 | 2.6 | 3.2 |
| 1966 | 22.0 | 4.4 | 17.6 | 11.7 | 5.9 | 4.3 | 4.0 | .7 | 3.3 | 1.6 | 2.9 | 3.6 |
| 1967 | 22.2 | 4.5 | 17.7 | 12.1 | 5.6 | 4.1 | 3.8 | .6 | 3.2 | 1.6 | 2.8 | 3.4 |
| 1966: | | | | | | | | | | | | |
| January–March | 21.3 | 4.2 | 17.1 | 11.5 | 5.6 | 4.0 | 3.7 | .6 | 3.1 | 1.6 | 2.7 | 3.4 |
| April–June | 21.6 | 4.4 | 17.2 | 11.5 | 5.7 | 4.2 | 3.9 | .6 | 3.3 | 1.6 | 2.9 | 3.5 |
| July–September | 22.3 | 4.5 | 17.8 | 11.5 | 6.3 | 4.6 | 4.3 | .8 | 3.5 | 1.7 | 3.1 | 3.8 |
| October–December | 22.7 | 4.6 | 18.1 | 12.1 | 6.0 | 4.4 | 4.1 | .8 | 3.3 | 1.6 | 2.9 | 3.6 |
| 1967: | | | | | | | | | | | | |
| January–March | 22.4 | 4.5 | 17.9 | 12.2 | 5.7 | 4.2 | 3.8 | .6 | 3.2 | 1.6 | 2.9 | 3.5 |
| April–June | 22.3 | 4.7 | 17.6 | 11.9 | 5.7 | 4.2 | 3.9 | .6 | 3.3 | 1.5 | 2.9 | 3.6 |
| July–September | 22.1 | 4.5 | 17.6 | 12.0 | 5.6 | 4.1 | 3.7 | .6 | 3.1 | 1.6 | 2.7 | 3.4 |
| October–December | 22.2 | 4.6 | 17.6 | 12.0 | 5.5 | 3.9 | 3.6 | .5 | 3.1 | 1.7 | 2.6 | 3.3 |

[1] The method of calculating these data has been revised. The figures are not comparable to those published before. These data are estimates of concurrent spreads in prices at each stage in bread production and distribution, reflecting structural marketing changes as well as changes in prices of production factors. They measure the estimated actual price spreads and are not a measure of marketing charges for a constant quantity of services. The estimates are prices at which bread and ingredients changed hands in trade.

[2] Average of retail prices of bread sold in food stores in urban areas reported by Bureau of Labor Statistics and adjusted for market changes occurring gradually but reflected at specific intervals in BLS published prices. These changes and their effects on prices are shown by the differences in the two published prices (benchmark prices) on such dates, reflecting the old and new situations. Data have been adjusted to assume a smooth and gradual change from the old to the new situations.

[3] Spread between retail and wholesale prices.

[4] Derived from BLS wholesale prices, trade data, Congressional hearings and reports, and survey data published by the National Commission on Food Marketing. Includes both wholesale brand and chainstore brand breads.

[5] Spread between wholesale price and cost to the baker of all ingredients.

[6] Cost of flour, shortening, nonfat dry milk, sugar, and other ingredients in a pound of bread, as reported in the latest Census of Manufactures adjusted to reflect monthly changes in market prices.

[7] Based on bread formulas using 0.641 lb. of flour through 1963 and 0.6329 lb. since. Cost of flour to baker as reported in the Census of Manufactures adjusted to reflect monthly changes in a 3-market weighted average price of several types of bread flour.

[8] Value of flour as reported in the latest Census of Manufactures adjusted to reflect monthly changes in a 3-market weighted average price of several types of bread flour.

[9] Spread between sales value of flour and cost of wheat to miller.

[10] Cost to miller as reported in the latest Census of Manufactures for wheat adjusted to reflect monthly changes in a 6-market average price of wheat used for milling bread flour and further adjusted to eliminate imputed value of millfeed products. It includes cost of the domestic marketing certificate beginning July 1964.

[11] Spread or charges for transporting, handling, storing all ingredients, for processing ingredients other than flour and cost of raw materials from which such nonfarm-produced ingredients as yeast, yeast food, salt, malt extract, mold inhibitor, and sundry ingredients are processed. This spread is a residual figure.

[12] Returns to farmers for wheat less imputed value of millfeed byproducts, based on average market prices received by farmers for hard winter and hard spring wheat in the 10 major bread wheat producing States; return for 0.897 lb. before July 1957, 0.884 lb. from July 1957 to December 1963, and 0.867 lb. beginning in January 1964. The value received for the domestic marketing certificate has been included beginning July 1964.

[13] Value at prices received by farmers, including the value of the domestic wheat marketing certificate, less byproduct allowances, for the quantity of wheat and other farm products yielding ingredients used in a pound loaf of white bread.

## HANDLING, TRANSPORTATION, AND OTHER CHARGES UP

Between the farm gate and the consumer's table several handling and processing steps take place and each has a cost. The difference between the farm value of ingredients and their cost to the bakery, less the mill spread, constitutes "other spreads." These spreads go to pay for storage, transportation, and handling ingredients, for processing ingredients other than flour, and for the cost of raw materials of nonfarm origin from which minor ingredients are processed for use in bread by the baker. In 1947-49, these charges were 1.1 cents and have fluctuated since, reaching a high of 1.7 cents in 1965.

Despite this upward trend, charges for these essential services and raw materials remain a small part of the price of a loaf of bread. After wheat is delivered by the farmer to a country elevator, it moves to a flour mill, some of it stopping at a terminal elevator on the way, all for about 27 cents a bushel. The cost of transporting wheat and flour in 1965 was about 0.6 cent per loaf of bread.

## BAKERY SPREADS AND COSTS UP

From the mill, flour moves by rail or truck to the bakery. Then, the number of services performed multiplies swiftly. Ingredients are stored, processed, and baked, and the bread is sliced, wrapped, delivered, and placed on grocery shelves.

The bakery spread consists of the difference between the cost of ingredients to the bakery and the estimated price at which bread is sold to grocers, including chainstores. Wholesale and chainstore bakeries account for the largest volume of baked goods. It is estimated that the wholesale price of white bread sold to or consigned to grocery stores for sale in 1967 was approximately 17.7 cents per pound. Deducting from this the cost of ingredients (5.6 cents) gives the bakery a spread of 12.1 cents (table 3).

Figure 4

Hourly earnings of production workers employed in plants producing all types of bakery products rose about 132 percent between 1947-49 and 1967 (table 4). Part of the increase took place each year. In 1967, about 6.3 cents of the 12.1-cent baker's spread per loaf was used to pay wages and salaries, excluding fringe benefits (table 1). In 1945, wages and salaries represented about 2.2 cents of the baker's 4.5-cent spread.

In addition, fringe benefits and social security taxes were 7 times their 1945 level in 1967. In 1945, these items combined represented about 0.1 cent per loaf and in 1967 about 0.7 cent.

A 5-day work week for employees doing delivery-selling work is becoming more accepted. Traditionally, bakery products have been delivered 6 days a week. Many bakeries continue to deliver 6 days by using either of two alternatives. By one, an extra driver-salesman is hired for every five routes and he substitutes for a different routeman each day, thus facilitating delivery 6 days with each routeman working only 5 days. Under this system, the salary paid the "swingman" adds to the bread distribution cost, and productivity, a difficult-to-measure factor, may be lower since the swingman travels a different route each day. As an alternative, some bakeries do not deliver on one of the midweek days but this may result in higher losses

from stale bread and greater promotion costs to retain market position.

Productivity of the driver-salesman delivery system declined for years. Studies indicate that the number of loaves delivered per route per week decreased approximately 30 percent during 1947-58. Since then, there has been an indicated increase, but not enough to offset increased labor rates. Payment of salaries and commissions to driver-salesmen claim about as much of the sales dollar as wage payments to plant labor.

Chainstore bakeries have a selling cost advantage over other bakeries. Often working at night when street traffic is at a minimum, the chainstore driver and helper in a semitrailer truck drop deliver large quantities of bakery goods at each supermarket. Store employees place the bread in display racks. In contrast, an average wholesale-bakery driver-salesman calls each day, during business hours, on 40 or more grocers and institutions. He takes time to transact business, striving to have his products displayed in prominent places.

In short, the wholesale bakery delivery system, developed years ago to meet the needs of the neighborhood retail grocery, has become more costly relative to sales volumes, and local wholesale bakeries are finding it difficult to compete with the high-volume cost-cutting wholesale delivery system developed by chainstore bakeries.

Besides salaries and commissions, selling expenses include the cost of operating vehicles, advertising, overhead, and losses from stale bread. Vehicle expenses and driver costs often make the cost of moving a loaf of bread from a bakery on one side of a city to a grocery store on the

**TABLE 4.—Hourly earnings of bakery production workers, United States, 1947-49 and annually 1957-67** [1]

| Year | Earnings, including overtime | Index (1947-49=100) |
|---|---|---|
| | *Dollars* | |
| 1947–49 | 1.15 | 100 |
| 1957 | 1.81 | 157 |
| 1958 | 1.90 | 165 |
| 1959 | 1.99 | 173 |
| 1960 | 2.10 | 183 |
| 1961 | 2.19 | 190 |
| 1962 | 2.27 | 197 |
| 1963 | 2.33 | 203 |
| 1964 | 2.41 | 210 |
| 1965 | 2.51 | 218 |
| 1966 | 2.59 | 225 |
| 1967 | 2.67 | 232 |

[1] Data are for the bakery products industry (Census Standard Industrial Classification 205), which consists of the bread and other perishable products industry (SIC 2051) and the biscuit and crackers industry (SIC 2052). These two classifications include all commercial bread, cake, pie, cooky, cracker, and pretzel bakeries, except single-unit retail bakeries. Since data are unavailable for some years for SIC 2051, since over 75 percent of the employees in SIC 205 are employed in 2051, and since hourly earnings for SIC 2051 are less than 5 cents per hour higher than for SIC 205, hourly earnings for SIC 205 are used to illustrate labor costs per hour of labor employed in bread production (SIC 2051)—Bureau of Labor Statistics, *Employment and Earnings.*

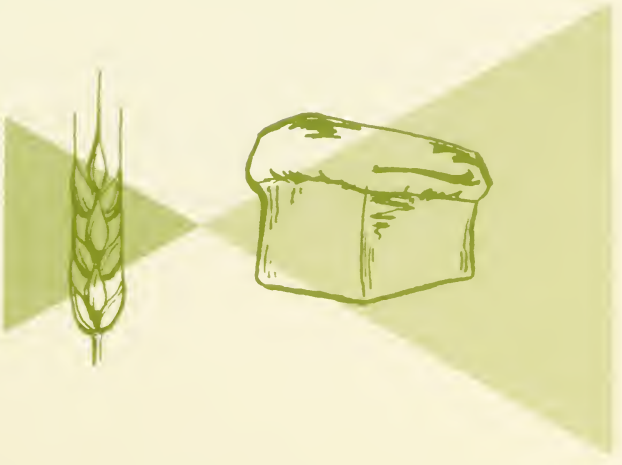
other higher than the cost of transporting the wheat that goes into the loaf from western North Dakota to the east coast.

Many bakery costs have more than doubled since 1945. For instance, the cost of advertising and promotion is two and one-half times what it was in 1945. The cost of packaging and wrapping materials has more than tripled. Delivery expense, other than wages and salaries, has nearly tripled, and other items have shown gains of more than 100 percent.

With costs increasing, the baking industry has been increasing output per hour of production labor used through mechanization. Bulk methods of handling flour are replacing bag handling methods. Flour can now be delivered in bulk by train or truck and moved by air pressure through tubes into storage bins. From there it flows by gravity, in many instances to an automated bread production line. These improvements have resulted in savings in production costs estimated at over a cent per pound loaf of bread.

Profits (after taxes) per loaf for baker-wholesalers were twice as high in 1950 as in 1945 (table 1), but by 1955 they had decreased one-third to 0.4 cent a loaf and were at that level in 1967.

Profits (after taxes) of five leading baking companies declined from an average of 4.1 percent of sales in 1947–49 to a low of 1.1 percent of sales in 1963, increasing to about 2.1 percent in 1967 (fig. 4). Profits (after taxes) of the five companies declined from 18.9 percent of stockholder equity during 1947-49 to 5.6 percent in 1962 and increased to about 9.9 percent in 1966. Profits (after taxes) for four major flour milling companies declined from 11.9 percent of stockholder equity during 1947-49 to 8.4 percent in 1962, but increased to 12.3 percent in 1966 and a further increase appears likely for 1967.



Retail grocers received an average of about 4.5 cents a loaf for their services in 1967. In 1947-49, their spread was 2.2 cents. The retail spread has increased in cents per loaf and has trended up from 15 percent of the retail price in 1951 to 20 percent in 1967.

The much larger total sales volume of the average grocery today compared with volume before World War II has resulted in a slower advance in retailers' spreads for bread compared with baker-wholesalers' spreads.

Statistics on retail spreads by type and size of store are not available, but trade reports for 100 cities since 1957 indicate that prices of bread sold under a store's own label have been about 4 cents per pound loaf below retail prices of wholesale bakery brand bread. These lower prices, the large volume sold by supermarkets, and the streamlined distribution system of bakeries serving supermarkets apparently indicate that proprietary-brand ("private-label") breads have lower retail spreads than wholesale bakery brand breads.

Retail spreads of home-delivery bakeries and retail bakeries also are unknown. Among such bakeries, the amount of personal selling and other services per pound of product reaches its maximum and it is reasonable to expect that the retail spreads exceed those in other segments of the bread baking industry.

## SELECTED REFERENCES

A number of other reports on marketing spreads for white bread are listed below. Some figures in reports issued after 1961 differ from figures in earlier reports, because of adjustments in factors used in computing spreads.


(1) Agricultural Marketing Service
1957. farm-retail spreads for food products. U.S. Dept. Agr. Misc. Pub. 741. 165 pp., illus. and Supp. for 1956–60. 39 pp., January 1961.

(2) Blackmore, E. W.
1948. farm-to-retail margins for white flour and white bread. U.S. Bur. Agr. Econ. 16 pp., illus.

(3) Economic Research Service
1965. bread and wheat price trends. Leaflet, U.S. Dept. Agr.

(4) _____
1965. farm-retail spreads for food products 1947–64. ERS–226. U.S. Dept. Agr.

(5) Eiland, J. C.
1961. marketing margins for white bread. Mktg. and Transportation Situation 140: 30–36A. Agr. Mktg. Serv. (Reprinted.)

(6) _____
1962. marketing margins for white bread. Misc. Pub. 712 (revised). U.S. Dept. Agr.

(7) _____
1964. marketing spreads for white bread. Mktg. and Transportation Situation 152: 24–30. Econ. Res. Serv. (Reprinted.)

(8) _____
1964. spreads in farm-retail prices of white bread. Misc. Pub. 969. U.S. Dept. Agr.

(9) Long, R. H., and Brensike, V. J.
1958. marketing margins for white bread. Mktg. and Transportation Situation 130: 17–24. Agr. Mktg. Serv. (Reprinted.)

(10) Phillips, S. W.
1952. an analysis of price spreads for white bread. Mktg. and Transportation Situation 106: 25–33, illus. Bur. Agri. Econ.

(11) _____
1954. price spreads for white bread. Mktg. and Transportation Situation 112: 33–37. Agr. Mktg. Serv.

(12) _____
1955. marketing margins for white bread. Mktg. and Transportation Situation 116: 40–43. Agr. Mktg. Serv.

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